

the Periodical

Southern Adventist University Chemistry Department



Dr. Schilling awarded Service Medallion

For the last 29 years, Bruce Schilling, PhD, has played a foundational role in Southern's Chemistry Department, helping it grow from three to seven full-time faculty.

When Schilling received the Distinguished Service Medallion during graduation in May of 2024, one of his colleagues at Southern was quick to pay tribute to the achievement. "Dr. Schilling truly merited this award," said Matthew P. Duffy, "and he deserves to know what an amazing blessing he has been to this Chemistry Department, the university, and its students."

Originally from Southern California, Schilling obtained his bachelor's degree in chemistry from Andrews University in 1981. Later, he pursued his doctorate in physical chemistry from California Institute of Technology (Caltech) in Pasadena in 1987. Next, he worked as an analytical chemist in the petrochemical industry and, later, for the U.S. Department of Energy. Although Schilling was used to spending his days in a lab, God had other plans and decided to bring him into the classroom.



Bruce Schilling, chemistry professor, receives the 2024 Distinguished Service Medallion from Ken Shaw, president of Southern Adventist University.

Since joining the faculty at Southern in 1996, Professor Schilling has been a positive influence on the students here. "Whether he's staying late to help students in lab or generously opening his house for club events, Dr. Schilling plays a huge role in why the Chemistry Department feels like family," said Elias Hanson,

who graduated on May 11, 2025, with a BA in Chemistry.

Schilling and his wife, Nancy, open their home multiple times a year for chemistry club events, where students from all majors attend and feel welcomed and accepted. "Dr. Schilling is more

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From the Chair: Importance of Prioritizing Family

Over the 25 years that I've been a part of the Chemistry Department, one of the themes that our students (both majors and non-majors) regularly mention when they talk about their perceptions of our department is family. Our faculty, past and present, have prioritized creating an environment that many of our students describe as being like a family. When we have departmental events, we usually hold them at a faculty home (almost always hosted by Bruce and Nancy Schilling), prepare the food ourselves, and bring our families along. Family involvement produces a family atmosphere.

We want our students to see and be part of healthy family environments, because most of them will have their own families after they graduate and we want



Brent Hamstra

them to prioritize and value their families as they build their careers.

Prioritizing family sometimes requires professional sacrifice. When two of our faculty welcomed new babies to their families at different times during the 2023-2024 school year, they took extended

leaves. A third faculty member also was away from work for several weeks due to health issues. Each of these faculty members set aside their professional aspirations for a time to focus on doing what was healthy for themselves and their families. The remaining faculty rearranged their schedules and took on extra work to help make this possible. (Unlike some other areas on campus, we do not have a readily available pool of potential adjunct instructors to step in when extra hands are needed.) I hope that valuing our colleagues' families

demonstrated the importance of family to our students.

Many of our students plan to enter careers in which the temptation to spend time away from family (or to avoid starting a family) can be strong, due to the financial incentives and prestige that can come from working more hours and taking on more responsibilities. We hope the memories we create in our workplace and in our extracurricular activities will increase the likelihood they will put family first. We also hope that wherever you are, the families you're a part of (including those families that others may see as a group of friends) bring you belonging and security and provide a welcoming environment for others who seek the same.

Please know that if you are one of our alumni, no matter where you are or for how long you've been gone, we still consider you part of the Chemistry Department family.

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than just a professor to me," shared student Abby Gilliland. "He's a friend, a mentor, and someone I can talk to when I'm feeling unsure."

When he is not filling students' minds about chemistry, Professor Schilling sometimes fills their stomachs with Little Debbie treats, homemade ice cream, or his famous pumpkin bread.

Schilling cares deeply about each of his students and is always willing to help them, because he genuinely wants them to do well. On the weekend before exams, he can often be found giving review

sessions late in the evening to ensure the students have the best chance of success.

It is no wonder that Schilling's classes are often filled beyond capacity. He truly has a heart of service.

Several times a year, he invites the chemistry club to help him put together puzzles that were donated to the Samaritan Center to make sure each puzzle is complete.

Every week at the Collegedale Church, he and his wife volunteer in the children's Sabbath School wing, where you can often find him playing the piano and making sure everything is running smoothly behind the scenes.

Sophie Blackburn, another 2025 chemistry graduate, served as the president of the Southern Chem Club this past school year.

"Dr. Schilling has been one of the kindest and most inspiring professors I've had," she said. "His vast knowledge and remarkable talent in teaching bring enjoyment to every class, and he has a unique gift for making us laugh while we learn. I've had the privilege of taking three courses from him, and he's become a close friend of mine. My experience at Southern would not have been as meaningful without him. I will genuinely miss seeing Dr. Schilling and working with him every day."

Chemistry Adjusts to Record Enrollments

During this 2024-2025 academic year, the Chemistry Department experienced record enrollments in our General Chemistry and Organic Chemistry courses. In the fall semester, 220 students began the General Chemistry I course. These students were divided between three lecture sections, taught by Bruce Schilling, Mitch Menzmer, and Brent Hamstra, and eight laboratory sections taught by Schilling, Menzmer, Nuvia Lawson, Hamstra, and adjunct instructor Marty Briggs. An additional 58 students began General Chemistry I in the winter semester, with Menzmer teaching their lecture section and two laboratory sections.

A total of 163 students began General Chemistry II in the winter semester, divided between the two lecture sections taught by Schilling and Hamstra, and six laboratory sections taught by Lawson, Hamstra, and Briggs.

An additional 20 students are expected to complete General Chemistry II in the summer of 2025 here at Southern.

In Organic Chemistry I, 127 students began the fall semester, with Matthew Duffy and Tamie

Suzuki each teaching one lecture section and three laboratory sections. Over 100 of these students continued into Organic Chemistry II in the winter semester, with each of the professors again teaching one lecture section and three laboratory sections. Accommodating students in six laboratory sections required a reconfiguration of laboratory lockers. In prior years, each pair of lab partners had their equipment split between two lockers; for this year, the lockers were reconfigured to put all of each pair's equipment in a single locker. In anticipation of this enrollment, the department purchased a substantial amount of additional glassware over the summer to ensure that each locker was properly stocked.

Substantial growth for pre-professional students and for students pursuing engineering degrees (who are only required to take General Chemistry I) over the past two years has fueled these large enrollments.

Two factors have allowed the Chemistry Department to accommodate this large number of students, explains Professor Hamstra, chair. "Having Dr. Briggs

available to pick up a couple of lab sections has made a huge difference in our ability to teach all of these General Chemistry lab sections while allowing other professors to fulfill other course responsibilities. And the support of donors who have contributed to the department on Giving Day and throughout the year has given us the funding to purchase additional glassware and other equipment these students need without busting our budget."

He adds, "We've put in a lot of effort to give students many options for lecture and lab scheduling while doing our best to respect the time our professors need to spend with their families and in service to their churches and communities."

Current enrollment projections suggest an increase in enrollment in these courses for the 2025-2026 academic year, particularly in Organic Chemistry. The Chemistry Department has contingency plans in place to serve larger numbers of students through flexible use of other laboratory spaces, as needed, and by finding bigger classrooms across the campus to accommodate larger enrollments.

Former Office Manager Returns to Role

Can you introduce yourself and share about your background?

My name is Heidi Olson. I graduated from Union College, now Union University, with a degree in psychology. I married my husband, Daniel Olson, in September 2013, and in 2014, I began working as the office manager in the Chemistry Department. I worked in the department for four years until I had my twin girls, Piper and Quinn, in October 2018. I was

blessed to be a stay-at-home mom for six years until my girls started kindergarten this past August.

What inspired you to join our team as office manager?

I knew my girls would start kindergarten this year, and I had no idea what I was going to do with my time. The last six years have been full of children, parenting, and



Heidi Olson

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Student Mission Spotlight: Caitlyn Cordero

The familiar three-note chime of the eleven o'clock library PA system halted my studying for another night. After hearing that sound for the hundredth time, I packed up my backpack and thought, "Why am I doing all of this? Studying feels incredibly selfish. It's as if it is all about me—doing well on my quizzes, acing my exams, and keeping up my GPA. My library cubicle has seen more of me than my friends have." From speaking to many other pre-medical or pre-dentistry students, I have found that this is a common sentiment. Realizing that the path to becoming a doctor calls for many years of studying alone, I pursued a deviation from my four-year plan to momentarily hold others higher than myself. I decided to serve as a student missionary in the grasslands of the Masai Mara.

When you become a student missionary (SM), you are assigned an official title by the SM office. Mine was "orphanage care assistant"; however, when one is thrust into the mission field, one puts on many hats. I found myself as a nursing assistant, dental assistant, nursery caretaker, seamstress, secondary school biology and chemistry teacher, music teacher, worship planner, preacher, friend, and "auntie." My craving to directly serve others was satiated with the donning of each hat, and as each day passed, I felt more called into my ultimate purpose: to love God and others.

As a chemistry teacher in a foreign country, the language barrier was formidable. Listening to a lecture on structures and bonding can already be puzzling, but when English is not comfortable, the vocabulary of "hydrogen bonding" and "van der Waals forces" completely passes over a student's head. While some of my students clearly understood the material and were scoring wonderfully on my pre-lecture quizzes, I noticed that the flummoxed faces in the back of the classroom had scores that reflected their confusion. I grew frustrated at the broad range of scores, feeling as if the academic failures of some students were my own. Going into problem-solving mode, I included more practice problems and worked with smaller groups. I tried explaining things in the simplest terms and drawing out examples. My efforts were earnest, but I felt as if they were falling short.

After some time in the classroom, I unfortunately found that the Kenyan education system had not necessarily promoted critical thinking. Many of my students did not know how to study and were simply memorizing the textbook. As every college student finds, memorization does not mean understanding, and this was another reason why many of my students were struggling. I decided to incorporate studying techniques into my lectures, so



Caitlyn Cordero holds a young child during her time as a student missionary at Mara Christian Academy in Kenya.

that hopefully, they could learn this necessary skill. I exemplified note-taking methods, how to condense information, and how to actively review material. As the term went on, the score averages slightly increased. I did not revolutionarily boost their scores; however, I do not think that doing so was why God called me to Mara Christian Academy. Rather, I think God called me there for a higher purpose: "For God saved us and called us to live a holy life. He did this, not because we deserved it, but because that was his plan from before the beginning of time—to show us his grace through Christ Jesus" (2 Tim. 1:9, NLT). My purpose for being at the school was to reflect holiness to my students, to be a light of His grace, and to ultimately bestow Christlike friendship and love to them.

During our 10-minute break between chemistry and biology lectures, I chatted with my students, learned more about them and their interests, watched soccer clips with them, and eventually became a fan of Manchester United alongside them. By the end of my time at Mara Christian Academy, I had taught chemistry to some students, and introduced study skills to others, but ultimately I became a friend to all. I left Kenya feeling that my purpose had been fulfilled, and I felt a renewed hope to continue living out my purpose back in the States. Whether in a classroom in the Masai Mara, walking along the promenade, or late-night studying in the library, we are each called for the higher purpose of holiness and to reflect the grace of Christ Jesus. No matter the mission field, let us carry on with this pursuit, serving and loving one another as Christ did for us.

Biblical Applications

Becoming Like Little Children

In Matthew 18:3 (NKJV), Jesus says to His disciples: “Assuredly, I say to you, unless you are converted and become as little children, you will by no means enter the kingdom of heaven.”

I never understood the depth of this verse until recently. As a mother of two young boys, I’ve come to notice the beautiful qualities that children naturally possess.

Innocence and Purity

One day at lunch, my 3-year-old son, Noah, suddenly exclaimed, “Look, Mommy, there’s the cross!” Because of his age, Noah struggles with pronunciation, and “cross” was one of those difficult words for him. At first, I couldn’t understand what he meant. After a few tries, he walked over to point at the cross-shaped windowpane dividers and said, “Remember, Jesus died on the cross.”

I was amazed at how Noah made that connection. He saw the shape in the window—the intersection of the vertical and horizontal bars—and linked it to what he’d learned from his Bible stories. Children have such simple and innocent minds, which are not clouded by the worries of the world.

As adults, our minds are constantly occupied by the tasks and concerns of daily life—work, meals, chores, and more. While these are important things to think about, it’s crucial to remember what Jesus said in Luke 17:26 (NKJV): “And as it was in the days of Noah, so it will be also in the days of the Son of Man...” History shows us how life carried on as usual in the days of Noah, until the Flood came. We, too, must prepare ourselves for Jesus’ return by keeping our hearts focused on Him.

Humility

Children don’t care about status or pride. They depend on others, especially their parents, and have no hesitation asking for help. My two young boys often ask for help with everything—eating, sleeping, playing, and even going to the bathroom. They aren’t shy about it, because they know they need it.

In Matthew 18:4 (NKJV), Jesus says, “Therefore whoever humbles himself as this little child is the greatest in the kingdom of heaven.” To follow God, we must humble ourselves, acknowledge our need for Him, and be open to receiving His help.

Trust and Dependence

Trust is at the core of faith. Jesus calls us to trust in God completely, just as children trust their parents. My 1-year-old, Elijah, clings to me whenever I’m home. At his age, he experiences separation anxiety, which means he gets upset if I disappear for even a second. His world revolves around me and his daddy.

As independent adults, who do we trust and depend on? If we truly rely on God, do we cry out to Him when we feel distant from His presence? In John 15:5 (NKJV), Jesus says, “For without Me you can do nothing.” We must recognize our need for God’s strength and guidance in our lives.

I’m learning from my children every day. Jesus calls us to be like little children because they show us the way to live with innocence, humility, trust, and dependence. They are open to learning, quick to forgive, and live joyfully without burdens that weigh down adults. By adopting these childlike qualities, we allow ourselves to receive God’s grace and to enter His kingdom with a pure heart and simple faith.

By Crystal Zhang Glassford

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milestones I was blessed to be present for. I knew that if I went back to work, it would need to fit with my children’s school schedule.

About a month before my girls started school, I received an email that this position in the Chemistry Department was going to be available again. I emailed Dr. Hamstra immediately to apply

and began working here again the same day my girls started their first day of school. It was an answer to a prayer I had not even prayed. God always has a plan.

What are your main responsibilities in this role?

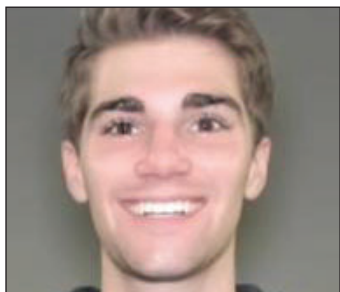
Making sure everyone is happy and has what they need. Show good customer service to students, parents, and visitors. Keep the office running smoothly.

What do you hope to achieve in your return?

I would love the Chemistry Department to feel like an open and safe space for students and faculty. I want the students to know they matter to us, and we are here to listen and assist as needed. Presenting a friendly and welcoming atmosphere is especially important to me.

By Mitch Menzmer

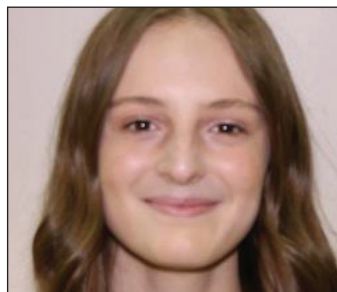
Chemistry Graduates, 2024-2025



Elias Hanson, Dec. 2024
BA Chemistry
*Loma Linda University
School of Medicine*



Elora Horsley, Dec. 2024
BA Chemistry
Attend medical school



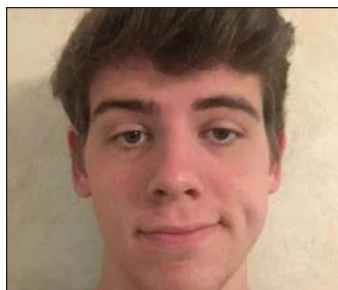
Anella Poljak, Dec. 2024
BS Biochemistry
*Loma Linda University
School of Medicine*



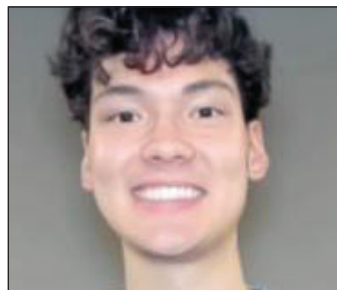
Sophia Blackburn, May 2025
BS Biochemistry
*Loma Linda University
School of Medicine*



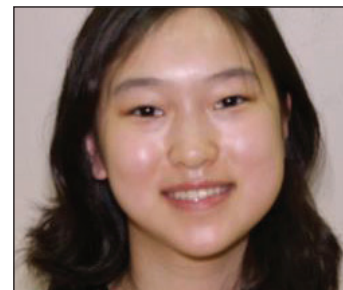
Caitlin Cordero, May 2025
BS Biochemistry
*Loma Linda University
School of Medicine*



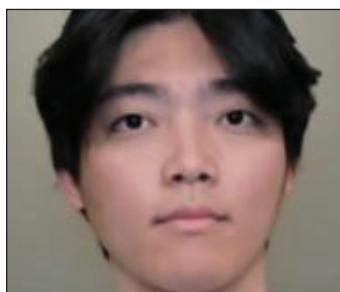
Joshua Davis, May 2025
BS Biochemistry
*University of Florida
Graduate School*



Connor Grant, May 2025
BS Biochemistry
*Loma Linda University
School of Medicine*



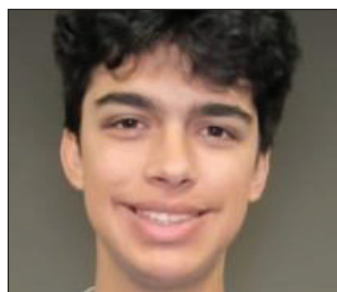
Clara Lee, May 2025
BS Biochemistry
*Loma Linda University
School of Medicine*



Derek Lee, May 2025
BA Chemistry
Attend medical school



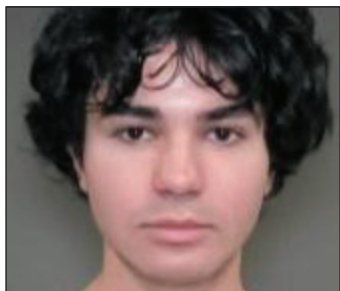
Sahyii Lozano, May 2025
BS Biochemistry
*Loma Linda University
School of Medicine*



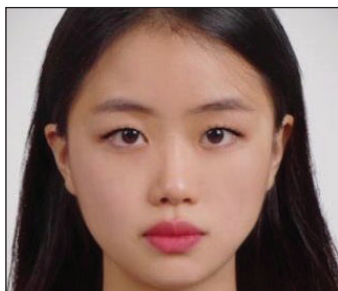
Andre Menezes, May 2025
BA Chemistry
Attend medical school



Larissa Menezes, May 2025
BA Chemistry
Attend medical school



David Uta, May 2025
BS Biochemistry
*Loma Linda University
School of Dentistry*



Sarah Yoon, May 2025
BA Chemistry
*Loma Linda University
School of Dentistry*

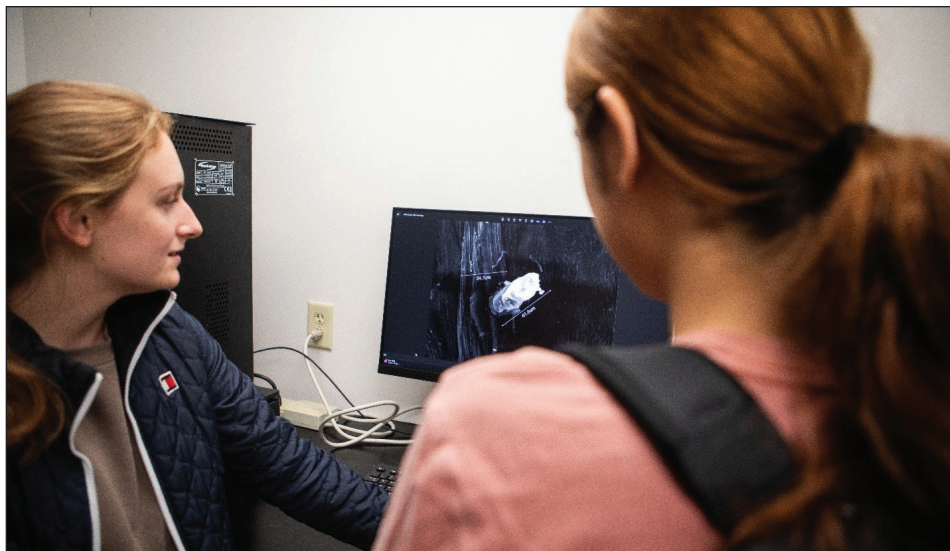
**Congratulations to
all our Chemistry
Department
graduates!**

Scanning Electron Microscope Magnifies Student Research

Better together. We have heard it many times. It is a great slogan. This last year, our department had a great “Better Together” year, and I would like to share a part of it with you all.

Together, the university, Biology Department, and Chemistry Department collaborated to buy a Scanning Electron Microscope (SEM), an instrument that is not typically found on a small campus. However, Southern believes in being distinct in character and education. The SEM was put to use very quickly thanks to our enthusiastic research students, Allison Kim and Nicole Seheult, who signed up to help establish the Standard Operating Procedure (SOP) for the SEM and to gather data on best settings for different types of samples. They imaged biological samples (hair, leaves, and bugs) as well as chemicals from student research projects (nanoparticle precursor metal oxides, other salts, and carbon nanotubes (CNT)).

Kim and Seheult have contributed 100 hours of SEM



Nicole Seheult, junior biochemistry major, left, and Allison Kim, senior biomedical major, view images from the scanning electron microscope. (Photo by Preston Waters)

work, including training students and faculty on the SEM.

Our department is currently looking for funding sources to pay students for research. Our campus, thus far, has obtained a grant for growing the STEM fields. We are working together and also supporting the Developing Hispanic-Serving Institutions (DHSI) program, which seeks to secure work programs to pay

students working on special projects. This is how Kim and Seheult received some payment for their amazing work.

The faculty are excited about research growth on campus and continuing improvement in our own research to grow our skills with other departments and provide training on this specialized instrument.

By Nuvia Lawson

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Power for Mind & Soul

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Nuvia Lawson, PhD

Tamie Suzuki Kawakami, PhD

Heidi E. Olson, Office Mgr.

Giving Day Supports Enrollment Growth

On Southern Adventist University's 2024 Giving Day, the Chemistry Department exceeded its goal of raising \$6,000 by a total of \$6,437. This impressive sum included \$4,937 in from donations by alumni, parents, students, employees, and friends from all over the world, as well as additional funds won during Power Hour events.

Power Hours are special times on Giving Day when donors can maximize their impact by winning additional funds for the cause of their choice.

The Chemistry Department secured second place in the 8 a.m. Power Hour, earning an extra \$500 for having the highest number of donors between 8-9

a.m. In addition, Professor Tamie Suzuki won the 10 a.m. Faculty and Staff Power Hour drawing, directing another \$1,000 toward the department and further contributing to the day's success.

During the 2025 Giving Day in April, the Chemistry Department set an ambitious goal of raising \$15,000 to help equip our General Chemistry and Organic Chemistry laboratories for the record numbers of students in these courses. Donors contributed \$6,700 to the department, and although this level of giving fell well short of our goal, the giving for these past two years has been vital in supporting enrollment growth. These donations enabled the Chemistry Department to

purchase balances, spectrometers, centrifuges, and additional equipment, maximizing the use of laboratory spaces so that students will continue to have access to the resources they need to complete their lab experiments efficiently and effectively.

Thanks to the generosity of alumni, parents, students, employees, and friends from around the globe who have united on Giving Day and throughout the year, we are making the Chemistry Department at Southern Adventist University even more extraordinary. To find out more about how you can support our work and students with a one-time or recurring gift, contact us or visit southern.edu/giveChemistry.